

config-antecedent^{11,40}

config-antecedent($es; Master; Config; c$)
 \equiv_{def} ($\forall e: \mathbf{E}(Config). (c(e) < e)$)
& ($\forall e_1, e_2: \mathbf{E}(Config). (c(e_1) < c(e_2)) \Rightarrow (\text{loc}(e_1) = \text{loc}(e_2)) \Rightarrow (e_1 < \text{loc } e_2)$)
& ($\forall e: \mathbf{E}(Config).$
 let $m = Master(c(e))$ in
 chain_config_ind($Config(e); (\uparrow \text{cmconfig}?(m))$)
 & ($\|\text{cmconfig-list}(m)\| \geq 1$)
 & $\text{loc}(e) = \text{hd}(\text{cmconfig-list}(m)); (\uparrow \text{cmconfig}?(m))$
 & ($\neg(\uparrow \text{null}(\text{cmconfig-list}(m)))$)
 & $\text{loc}(e) = \text{last}(\text{cmconfig-list}(m)); i. (\uparrow \text{cmconfig}?(m))$
 & ($\exists \text{index}: \{0.. \|\text{cmconfig-list}(m)\| - 1\}$
 ($0 < \text{index}$)
 & $\text{loc}(e) = \text{cmconfig-list}(m)[\text{index}]$
 & $i = \text{cmconfig-list}(m)[(\text{index} - 1)]; i.n. (\uparrow \text{cmseq}?(m))$)
 & $i = \text{cmseq-to}(m)$
 & $\text{loc}(e) = \text{cmseq-from}(m)$
 & $n = \text{cmseq-num}(m)$)

clarification:

config-antecedent($es; Master; Config; c$)
 \equiv_{def} ($\forall e: \text{es-E-interface}(es; Config). \text{es-causl}(es; (c(e)); e)$)
& ($\forall e_1: \text{es-E-interface}(es; Config), e_2: \text{es-E-interface}(es; Config).$
 $\text{es-causl}(es; (c(e_1)); (c(e_2)))$
 $\Rightarrow (\text{es-loc}(es; e_1) = \text{es-loc}(es; e_2) \in \text{Id})$
 $\Rightarrow \text{es-locl}(es; e_1; e_2)$)
& ($\forall e: \text{es-E-interface}(es; Config).$
 let $m = Master(c(e))$ in
 chain_config_ind($Config(e); (\uparrow \text{cmconfig}?(m))$)
 & ($\|\text{cmconfig-list}(m)\| \geq 1$)
 & $\text{es-loc}(es; e) = \text{hd}(\text{cmconfig-list}(m)) \in \text{Id}; (\uparrow \text{cmconfig}?(m))$
 & ($\neg(\uparrow \text{null}(\text{cmconfig-list}(m)))$)
 & $\text{es-loc}(es; e) = \text{last}(\text{cmconfig-list}(m)) \in \text{Id}; i. (\uparrow \text{cmconfig}?(m))$
 & ($\exists \text{index}: \{0.. \|\text{cmconfig-list}(m)\| - 1\}$
 ($0 < \text{index}$)
 & $\text{es-loc}(es; e) = \text{cmconfig-list}(m)[\text{index}] \in \text{Id}$
 & $i = \text{cmconfig-list}(m)[(\text{index} - 1)] \in \text{Id}; i.n. (\uparrow \text{cmseq}?(m))$)
 & $i = \text{cmseq-to}(m) \in \text{Id}$
 & $\text{es-loc}(es; e) = \text{cmseq-from}(m) \in \text{Id}$
 & $n = \text{cmseq-num}(m) \in \mathbb{Z}$)